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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,395	11/21/2003	Yingjun Bai	D/A3378	2563
25453 7590 09/05/2007 PATENT DOCUMENTATION CENTER XEROX CORPORATION 100 CLINTON AVE., SOUTH, XEROX SQUARE, 20TH FLOOR ROCHESTER, NY 14644			EXAMINER DANG, DUY M	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 09/05/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/719,395

Applicant(s)

BAI ET AL.

Examiner

Duy M. Dang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 7-10 and 13-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11, 12 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/21/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Applicant's drawings, Figures 2A-2B, filed on 6/20/2007 has been approved by the examiner.

Election/Restrictions

2. Applicant's amendment to claims filed on 6/20/2007 has been entered and made of record.
3. Applicant's election without traverse of Species 1, claims 1-12 and 16 in the reply filed on 6/20/2007 is acknowledged. Thus, claims 13-15 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species 2, there being no allowable generic or linking claim.
4. The Examiner would like to apologize for improper grouping claims with regard to species 1-2 in the previous Office action mailed on 6/6/2007. Claims 1-6, 11-12 and 16 would be properly read on species 1 and claims 7-10 and 13-15 would be properly read on species 2 because recitations in claims 7-10 are similar to recitation in claims 13-15. Therefore, claims 7-10 have been withdrawn from further consideration 37 CFR 1.142(b) as being drawn to a nonelected species 2.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-2 and 4-6 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

MPEP 2106(IV)(A)(C)(2), 8th Edition, Rev. 5, Published on August 2006) states:

While abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, methods and products employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be. In evaluating whether a claim meets the requirements of section 101, the claim must be considered as a whole to determine whether it is for a particular application of an abstract idea, natural phenomenon, or law of nature, rather than for the abstract idea, natural phenomenon, or law of nature itself.

For claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomenon. Diehr, 450 U.S. at 187, 209 USPQ at 8 ("application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection."); Benson, 409 U.S. at 71, 175 USPQ at 676 (rejecting formula claim because it "has no substantial practical application").

To satisfy section 101 requirements, the claim must be for a practical application of the Sec. 101 judicial exception, which can be identified in various ways:

The claimed invention "transforms" an article or physical object to a different state or thing.

The claimed invention otherwise produces a useful, concrete and tangible result, based on the factors discussed below.

A practical application exists if the result of the claimed invention is "useful, concrete and tangible." A "useful" result is one that satisfies the utility requirement of section 101, a "concrete" result is one that is "repeatable" or "predictable", and a "tangible" result is one that is "real", or "real-world", as opposed to "abstract" (MPEP 2106). In this case, the scope of claim 1, as a representative claim, represents an abstract idea without a practical application and fails to at least produce a "tangible result" or real-world result".

In addition, the claimed invention as recited in claim 1 is so abstract and sweeping as to cover the method if practiced by human operator assisted only by pencil and paper. The claims do not include a particular machine or apparatus, and no machine-implemented steps are recited,

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the steps are capable of performance by human mind. A method of this sort, traditionally called a mental process, is not patentable subject matter. A phenomena of nature, though just discovered, mental process, abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work (emphasis added). See *Gottschalk v. Benson*, 175 USPQ 673, 675 (USSC 1972). Also see *In re Prater and Wei*, 159 USPQ 583 (1968), rehearing, 162 USPQ 541 (1969).

Applicant is also advised to provide a written explanation of how and why the claimed invention (either as currently recited or as amended) produces a useful, concrete and tangible result.

Likewise, claims 2 and 4-6 depend from claim 1 and thus are also rejected for the same reasons as set forth above.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Dolan (USPN 7,043,080).

Regarding claim 1, Dolan teaches: a method of processing image data, the image data including a first subset of the image data and a second subset of the image data (see figure 2A:

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note that the black and white portions correspond to the so-called “first and second subsets” respectively), comprising: identifying in the image data a hole (see center black area enclosed by the white area as shown in figure 2A and this black area is considered to be a so-called “a hole”), a hole being an area associated with the first subset, the hole being substantially surrounded by an island associated with the second subset (see figure 2A: center black area surrounded by the white area and this white area is considered to be a so-called “island”), and the island being substantially surrounded by a greater area associated with the first subset (see figure 2A: the white area is surrounded by the outer black area which is considered to be a so-called “a greater area associated with the first subset”).

9. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Dresevic et al. (USPN 6,498,608).

Regarding claim 1, Dresevic teaches: a method of processing image data, the image data including a first subset of the image data (i.e., area surrounded by item 64 as shown in figure 2C) and a second subset of the image data (i.e., border/edge depicted at 64 as shown in figure 2C), comprising: identifying in the image data a hole (i.e., area surrounded by item 64 as shown in figure 2C is considered to be a so-called “a hole”), a hole being an area associated with the first subset, the hole being substantially surrounded by an island associated with the second subset (see figure 2C: edge/border 64 as shown in figure 2C is considered to be a so-called “island”), and the island being substantially surrounded by a greater area associated with the first subset (see figure 2C: edge/border 64 is surrounded by the area sandwiched between edge/border 64 and edge/border 62).

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10. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Collins (USPN 6,173,075).

Regarding claim 1, Collin teaches all claimed limitations (see figure 3E). For example, area surround by edge 908 corresponds to the so called “first subset” and “a hole”; area sandwiched between edges 908 and 906 corresponds to the so called “second subset” and “island”; and area sandwiched between edges 906 and 904 corresponds to the so called “a greater area associated with the first subset”. With regard to the so called “associated with the first subset”, the area sandwiched between edges 904 and 906 and area surrounded by edge 908 are related or associated i.e., non-dashed areas.

11. Claims 1 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Pastor (USPN 4,539,704).

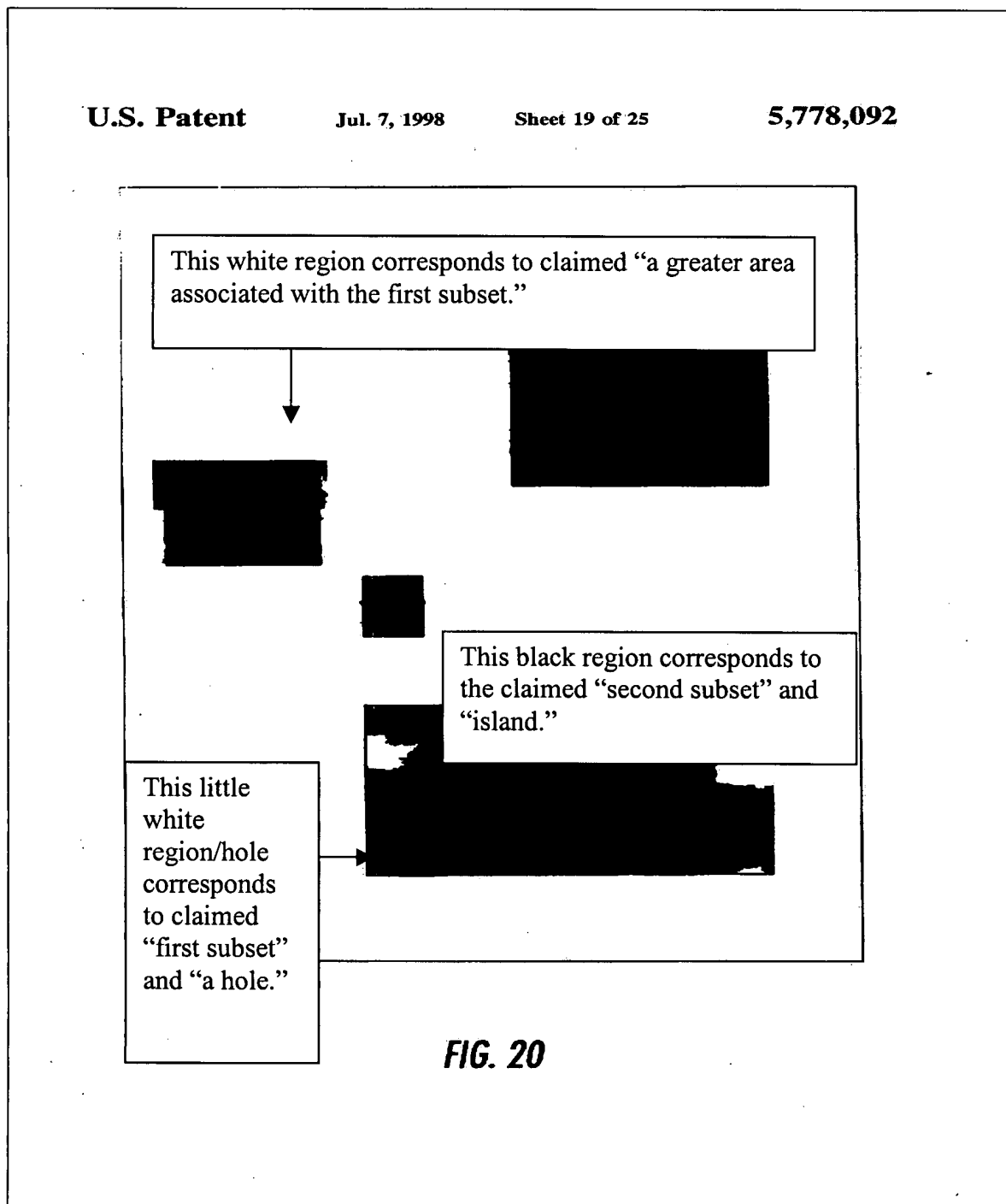
Regarding claims 1 and 12, Pastor teaches: first subset and a hole (see center white region shown in figure 3); second subset and island (see black edge surrounding center white regions in figure 3); a greater area associated with the first subset set (see white region sandwiched between inner black edge and outer black edge in figure 3); and a more-greater area associated with second subset (see outer black edge in figure 3).

12. Claims 1-4, 11-12, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by MacLeod et al. (USPN 5,778,092. Art of recorded, IDS filed 11/21/2003, referred as “MacLeod” hereinafter).

Regarding claim 1, MacLeod teaches a method of processing image data, the image data including a first subset of the image data and a second subset of the image data, comprising: identifying in the image data a hole, a hole being an area associated with the first subset, the hole

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being substantially surrounded by an island associated with the second subset, and the island being substantially surrounded by a greater area associated with the first subset (see figures 20-22). For example, figure 20 in MacLeod teaches claimed invention as follows:



Furthermore, figure 24a of MacLeod also teaches claimed features as recited in claim 1. For example, the little white area surrounded by the little square corresponds to the so-called “first subset” and “a hole”; the black edges surrounding this little white square corresponds to the so-called “second subset” and “island”; and these black edges are surrounded by the white area sandwiched between these black edges and the outer black edges and the said white area sandwiched corresponds to the so-called “a greater area associated with the first subset”. Moreover, these outer black edges corresponds to the so-called “wherein the greater area is substantially surrounded by a more greater area associated with the second subset” as further required by claim 12.

Regarding claim 2, MacLeod further teaches altering the image data so that the hole becomes associated with the second subset (see figure 21. Note that the little white region/hole shown in figure 20 as pointed out above is altered to black region which is associated with second subset or black region).

Regarding claim 3, MacLeod further teaches applying a simplification algorithm to the image data (i.e., the conversion process applied to figure 20 to convert little white region/hole to black region as shown in figure 21 corresponds to the so called “simplification algorithm); and suppressing alteration of image data associated with the hole during the applying step (see compression depicted at 106 of figure 1. In addition, the figures 21-22 represent the results after suppressing the little white regions/holes).

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Regarding claim 4, MacLeod further teaches comprising altering the image data if the hole is within a predetermined size range (see figures 20-22. Note that figures 21-22 represent the image data altered when the little white region/hole is within the predetermined size range).

Regarding claims 11 and 16, MacLeod further teaches wherein the image data is associated with an MRC selector plane (see item 2454 of figure 24c).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacLeod in view of Huttenlocher et al. (USPN 6,249,604)

The advanced statements applied to claims 1-4, 11-12, and 16 above are incorporated hereinafter. Regarding claims 5-6, while MacLeod teaches maintaining data structure (see col. 13 line 55 to col. 14 line 40, for example), MacLeod is silent with regard to the claimed “variable indicative of whether the image data have been previously altered.” However, such claimed feature is well known used in the art as evidenced by the patent to Huttenlocher.

Huttenlocher, in the same of image processing, teaches maintaining data structure including variable indicative of whether the image data have been previous altered (see “paint component” depicted in figures 13A and 13B: the use of “queue” to store pixel location depicted at 308 and alter such pixel to white from black. Therefore, the pixel location corresponds to the so-called “variable indicative of whether the image data has been previously altered”).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made incorporated features as taught by Huttenlocher with MacLeod. The motivation for such combination would provide an aid to the user to undo the alternation to the image data.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duy M. Dang whose telephone number is 571-272-7389. The examiner can normally be reached on Monday to Friday from 6:00AM to 2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen D. Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

dmd
8/07



**DUY M. DANG
PRIMARY EXAMINER**